U.S. Department of Homeland Security

United States Coast Guard

Commanding Officer
United States Coast Guard
Marine Safety Unit Savannah

Juliette G. Low Federal Bldg.
100 W. Oglethorpe Ave., Ste 1017
Savannah, GA 31401-3604
Phone: (912) 652-4353
Fax: (912) 652-4052

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18 May 2021

Mr. John Maddox
Environmental Response Program
Environmental Protection Division
Georgia Department of Natural Resources
16 Center Dr
Cartersville, GA 30121

Re: Brunswick East River Mystery Sheen (BERMS) Case Referral

Dear Mr. Maddox:

On April 30, 2021, United States Coast Guard (USCG) Marine Safety Unit (MSU) Savannah received the Mayor's Point Discharge Investigation Report, dated April 28, 2021, from Resolve Marine. This report is associated with USCG's extensive two year investigation into the continuous discharge of oil which has caused a sheen on the East River, a navigable waterway of the United States located in Brunswick, Georgia.

Our investigation related to the sheen began in February 2019. The case was officially federalized in July 2020 by MSU Savannah. After opening the Oil Spill Liability Trust Fund to expand the investigation, the Coast Guard hired Resolve Marine (assisted by their sub-contractor, Tetra Tech) to identify the source of oil discharge across four waterfront properties; Georgia Ports Authority (GPA) Mayors Point Terminal, PAC Comm, Ocean Petroleum, and Scott & Sons. Resolve Marine conducted multiple investigations on the four properties to assess groundwater and soil contamination as well as searched for the sheen's source. Additionally, they conducted air monitoring testing and gathered important tidal flow data to help understand where the groundwater was flowing and under which properties. In a separate contract, Moran Environmental Recovery (MER) was hired to maintain containment boom and mitigate further sheening into the East River from the GPA, PAC Comm, and Ocean Petroleum properties.

Resolve Marine's most recent investigation report dated April 28, 2021 identified light non-aqueous phase liquid (LNPL) petroleum above the water table as well as dissolved phase benzene, toluene, ethylbenzene, and xylenes (BTEX) in groundwater at the GPA, PAC Comm, and Ocean Petroleum properties. Soil impacts were also identified on both the PAC Comm and Ocean Petroleum properties. Furthermore, potentiometric survey results showed a fairly consistent gradient from the east to west which flows towards the East River with a slight northward component. No contamination was noted on Scott & Sons property in the report.

Based on the conclusive evidence of groundwater and soil contamination on GPA, PAC Comm, and Ocean Petroleum properites the USCG and the U.S. Environmental Protection Agency (EPA) have recommended handing off the investigation to Georgia EPD Remediation Program

for remedial actions on the effected properties. On April 30, 2021, after conclusion of a conference call with USCG, EPA, and Georgia DNR all parties agreed with referring future investigative and remediation efforts to Georgia EPD.

Please refer to the attached enclosure for details on the BERMS case as well as further details of the final report from Resolve Marine. Continued discussions and engagement with MSU Savannah are welcomed and encouraged regarding this matter. Accordingly, please contact D07-DG-MSUSAV-IMD@USCG.mil or (912) 652-4353 to arrange future meetings/conference calls.

Sincerely,

K. A. Broyles
Commander, U.S. Coast Guard
Federal On-Scene Coordinator
Savannah, GA

Enclosure: (1) BERMS Timeline and Report Details

Copy: U.S. Environmental Protection Agency
U.S. Coast Guard, Sector Charleston
U.S. Coast Guard, D7 DRAT

Enclosure (1): BERMS Timeline and Report Details

On February 5, 2019, United States Coast Guard (USCG) Marine Safety Unit (MSU) Savannah received the first National Response Center (NRC) report regarding a mystery sheen in the vicinity of Georgia Port Authority (GPA) Mayor's Point facility. Due to the ongoing sheen emanating along its Mayor's Point facility waterfront area, GPA conducted an investigation on its facility to identify possible sources of the sheen. GPA's investigation suggested that a most-likely source of the oil discharge was south of the GPA property, which was owned by PAC Comm, Inc. After several meetings with the U.S. Environmental Protection Agency, Georgia Environmental Protection Division (EPD), GPA, and Terracon (GPA's contractor), to discuss GPA's groundwater and soil investigation results, MSU Savannah decided to expand the investigation onto the PAC Comm and Ocean Petroleum properties.

MSU opened the Oil Spill Liability Trust Fund in July 2020 and established a scope of work to take action in three phases. Each phase would be dependent on the result of the previous phase in order to move forward with the next phase. The phases were as follows:

- **Phase I – Ground Penetrating Radar (GPR)** – Utilize GPR to map the PAC Comm property, starting with at the southern fence line with GPA Mayor's Point, in an attempt to locate underground storage tanks, piping or any physical container that may have been previously undetected as the potential source.
- **Phase II - Secure the source or Drill Monitoring/Extraction Wells** - If a previously unknown source within some form of containment (ex. underground storage tank (UST)) is located during GPR scans, then that source will be immediately secured by draining remaining contents or removing the container completely. If a suspected physical source cannot be located, then with the recommendations from EPA, GA EPD, and contractors, Phase II would consist of drilling monitoring wells starting at the southern fence line of PAC Comm and working outward to "chase" the path of discharge back to a source.
- **Phase III: Disposal or Remediation** – If a contained source is located, properly drained/secured, then disposal of contents will be within all Federal/State regulations. Any remediation after securing the source will be passed to the State or EPA. If the monitoring wells do not provide satisfactory results for chasing the path of discharge back to a source that can then be secured, then site remediation will be passed to State or EPA and CG activities will cease.

On September 2020, the Phase I investigation was conducted by Resolve Marine and Tetra Tech on the PAC Comm property to determine if USTs could be identified through geophysical methods and if the source of the discharge could be identified through optical image profiling (OIP) tooling. The results of the geophysical survey did not indicate the presence of a UST on the Pac Comm property, although portions of the parcel were inaccessible, due to staged equipment related to the *Golden Ray* response. The OIP investigation revealed a petroleum plume on the western portion of the PAC Comm property, with gradient decreasing from south to north. This gradient suggests that the source of the plume is either in an inaccessible area of the southwest portion of the PAC Comm property, or from a parcel to the south of the PAC

Comm property. Based on the results of the Phase I site survey, MSU Savannah moved forward to Phase II, expanding the investigation to drill and install monitoring/extraction wells and collect soil and groundwater samples at the GPA facility, PAC Comm, Ocean Petroleum, and the Scott & Sons parcels.

In March 2021, Resolve Marine conducted the Phase II survey. During the survey, a total of nine permanent monitoring wells and two temporary monitoring wells were installed. Subsurface soil samples were collected from the borings of each of the new permanent wells and groundwater samples were collected from a total of 20 wells across the four properties. The groundwater samples from 18 wells were submitted for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), Total Petroleum Hydrocarbons (TPH) – Gasoline-range Organics (GRO), TPH – Diesel-range Organics (DRO), and TPH – Oil-range Organics (ORO). Free product samples from three wells were submitted for petroleum fingerprint analysis. Furthermore, a 48-hour, continuous, potentiometric survey of potentiometric conditions across the GPA, PAC Comm, and Ocean Petroleum properties and in the East River was conducted to determine groundwater flow direction and examine the extent of tidal influence on groundwater flow.

On April 30, 2021, MSU Savannah received the Phase II final report detailing the results of the investigation. The results identified soil contamination on both the PAC Comm property and Ocean Petroleum property that exceeds Georgia EPD UST Program Comparison Levels for BTEX constituents, TPH-GRO and TPH-DRO. Also, free product and BTEX concentrations in groundwater were identified that exceed Georgia EPD UST Program Comparison Levels on the GPA, PAC Comm, and Ocean Petroleum properties. Petroleum fingerprinting indicated that free product was present on the GPA property, consistent with gasoline; free product was present on Ocean Petroleum, consistent with #2 fuel oil; and free product was present between these two properties on PAC Comm, consistent with a mixture of gasoline and #2 fuel oil.

The water level data indicates that groundwater generally flows east to west, towards the East River. The data shows that the degree of tidal influence in the wells varies greatly across the site, ranging from up to five feet of amplitude in wells adjacent to the East River, to negligible amplitude at wells on the eastern portion of the properties. The data indicates that at some points in the tidal cycle groundwater along the shore of the PAC Comm property is lower than the East River. In that area, at those times, groundwater may be moving eastward from the river.

Of particular note, during the Phase II study on the PAC Comm property, contractors identified 4.5 feet of free product in Well PC-03 four days after the well was installed. The soil sample collected during the installation contained the highest levels of BTEX, TPH-GRO, and TPH-DRO of any soil sample collected. Well PC-03 shows a high degree of tidal influence and appears to receive water from both the east and the west at high tide. The data collected during this investigation does not provide an immediate explanation for the sporadic presence of this amount of free product in Well PC-03. Two possible explanations are the existence of a preferential pathway, or a third source located on the PAC Comm property. However, further investigation would be needed to conclusively identify the free product source in Well PC-03. The summary of results for each property are below:

GPA Mayor's Point facility

- All three groundwater samples collected from the GPA property contained benzene at concentrations above the Georgia EPD comparison standard.
- Wells GPA-05 and GPA-09 also exceeded the standard for ethylbenzene.
- Free product sample collected from Well GPA-01 for fingerprint analysis was found to most-closely resemble unleaded gasoline.

PAC Comm property

- Groundwater sample results from monitoring Wells PC-04 and PC-05 contained BTEX constituents at concentrations that exceeded the Georgia EPD comparison standards and detectable levels of TPH.
- Groundwater sample was not collected from Well PC-03 due to the volume of free product encountered during sampling (4.5 ft of product in well).
- Free product sample collected from Well PC-03 for fingerprint analysis was found to most-closely resemble a gasoline/diesel/#2 fuel oil mixture.

Ocean Petroleum property

- Groundwater sample results for all of the monitoring wells on the property where samples were collected exceeded the standards for one or more BTEX compounds (except for Wells OP-01 and OP-04, located upgradient of the above ground storage tanks).
- Free product sample collected from Well MW-11 for fingerprint analysis was found to most closely resemble #2 fuel oil.

Scott & Sons property

- Laboratory analysis of the two Scott & Sons groundwater samples did not detect any BTEX compounds or TPH-GRO in either of the samples.
- Sample SS1-GW had a detection of TPH-DRO and TPH-ORO.
- SSW-GW had a detection of TPH-DRO.